



## CORRECTED PAGE

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micropores (not shown) located at intervals along hose 1, and thus producing the bubble-size-reducing effect described above. Tube 2 is connected to a pump 5 and a source of bubble-size-reducing additive 6 in a holding tank 7. Pump 5 has a controlled flow rate for delivering a selected amount of bubble-size-reducing additive 6 per unit volume of air.

[0030] Tube 2 is inserted into the bubble diffuser hose 1 through one leg of a "Y" conduit 8, which leg is closed off at 9 by epoxy or other means such that air injected into the other leg of the "Y" does not escape from the region between the outer surface 10 of tube 2 and the inner surface 11 of the "Y" 8. The other leg of the "Y" is connected to a compressor or other source of compressed air 13. Tube 2 is also closed off by epoxy or other means at end 12 to stop the bubble-size-reducing additive from escaping out that end, and thereby forcing it to emerge from the pinholes 3, and ultimately to emerge with the air through the micropores in ~~tube 2~~hose 1. The presence of the bubble-size-reducing additive at the site of the bubble formation through the micropores causes desired bubble-coalescence inhibition and hence the bubble-size reducing effect described above. This method is appropriate for those additives on the lower viscosity end of the spectrum of additives listed above (or mixtures of these additives in low viscosity diluents), and it may result in clogged pores for the more viscous additives.

[0031] In alternative embodiments of the present invention, the air injection approach includes the step of atomizing the additive into very fine droplets prior to delivery into the diffuser. (Such an atomizer is not shown in figure 1.) Tests have demonstrated that alcohols such as Exxal-8 can in fact be atomized into droplets of average diameter of 0.3 microns or smaller. Atomization of the additive facilitates its transport through the fine pores of the diffuser, tending to prevent clogging of pores. Tests have shown that atomized Exxal-8 at 8 psi (with admixed air) passes through pores of a diffuser hose where the pore surface diameter varied between 3 and 30 microns. No clogging problem was observed. This is not to imply that the apparatus of figure 1 with no atomization capability will not be able to deliver